

I/We Claim:

1. A computer readable medium storing a data structure defining a window for drawing on a desktop representation displayed on a display device, comprising:

a first data field storing base content object properties for a base content object of the window; and

a second data field storing content object properties for a plurality of discrete primary content objects.

2. The computer readable medium of claim 1, wherein the first data field is subdivided to store base object properties comprising a base geometry.

3. The computer readable medium of claim 1, wherein the first data field is subdivided to store base object properties comprising base content margins, a base extent, and a base material.

4. The computer readable medium of claim 2, wherein the first data field is further subdivided to store base geometry properties comprising a plurality of vertices defining a mesh.

5. The computer readable medium of claim 3, wherein the first data field is further subdivided to store base material properties comprising an ambient color, a diffusive color, and a specular color.

6. The computer readable medium of claim 5, wherein each of the ambient color, diffusive color, and specular color are defined as an ARGB value.

7. The computer readable medium of claim 3, wherein the first data field is further subdivided to store base material properties comprising a reflection scalar and a refraction index.

8. The computer readable medium of claim 3, wherein the first data field is further subdivided to store base material properties comprising a diffuse texture and a bump texture.

9. The computer readable medium of claim 1, wherein the second data field is further subdivided to store a content geometry and a content surface for each primary content object.

10. The computer readable medium of claim 9, wherein the second data field is further subdivided to store content surface properties comprising an ARGB texture for each primary content object.

11. A data processing system comprising:
a memory storing window properties comprising, for a plurality of windows for which properties are stored, properties for a base object and properties for one or more primary content objects;

a compositing desktop window manager software module that composes a desktop based on the window properties of each window for which properties are stored,

wherein for one of the plurality of windows for which properties are stored, the memory stores a plurality of primary content objects.

12. The data processing system of claim 11, wherein the properties for the base object comprise a base geometry.

13. The data processing system of claim 11, wherein the properties for the base object comprise base content margins, a base extent, and a base material.

14. The data processing system of claim 12, wherein the base geometry property comprises a plurality of vertices defining a mesh.

15. The data processing system of claim 13, wherein the base material property comprises an ambient color, a diffusive color, and a specular color.

16. The data processing system of claim 15, wherein each of the ambient color, diffusive color, and specular color are defined at least by an ARGB value.

17. The data processing system of claim 13, wherein the base material property comprises a reflection scalar and a refraction index.

18. The data processing system of claim 13, wherein the base material property comprises a diffuse texture and a bump texture.

19. The data processing system of claim 11, wherein the memory stores, for at least one primary content object, a content geometry and a content surface.

20. The data processing system of claim 19, wherein the content surface comprises an ARGB texture.

21. A computer implemented method of displaying a window in a graphical user interface of a shell of an operating system, comprising:

receiving window information from an instance of an application program; and
rendering a window having a base object and a plurality of discrete primary content objects.

22. The method of claim 21, wherein rendering is based on base content margins, a base extent, and a base material.

23. The method of claim 21, wherein rendering is based on a base geometry defined by a mesh.

24. The method of claim 22, wherein rendering is based on base material properties comprising an ambient color, a diffusive color, and a specular color.

25. The method of claim 24, wherein each of the ambient color, diffusive color, and specular color are defined as an ARGB value.

26. The method of claim 22, wherein rendering is based on base material properties comprising a reflection scalar and a refraction index.

27. The method of claim 21, wherein rendering is based on base material properties comprising a diffuse texture and a bump texture.

28. The method of claim 21, wherein rendering is based on a content geometry and a content surface for each primary content object.

29. The method of claim 28, wherein rendering is based on content surface properties comprising an ARGB texture for each primary content object.

30. The method of claim 23, further comprising:
receiving user input to resize the window;
dividing the mesh into three regions per mesh dimension;
for each region, maintaining offsets of mesh vertices in any dimension by which the region is bounded by a bounding box of the window, and scaling mesh vertices in any dimension by which the region is not bounded by the bounding box of the window.

31. A method for resizing a window having two primary content objects, the window defined in part by a mesh, comprising:
dividing the mesh into three regions per mesh dimension;
for each region, maintaining offsets of mesh vertices in any dimension by which the region is bounded by a bounding box of the window, and scaling mesh vertices in any dimension by which the region is not bounded by the bounding box of the window.

32. The method of claim 31, wherein the regions are equally sized.

33. The method of claim 31, wherein the regions are not equally sized.

34. The method of claim 33, wherein regions bounded by the bounding box are as small as necessary to encompass material that should not be scaled.